1. Solve the equation for x and choose the interval that contains x (if it exists).

$$11 = \sqrt[4]{\frac{26}{e^{6x}}}$$

   A. $x \in [0.26, 1.95]$

   B. $x \in [-8.49, -7]$

   C. $x \in [-0.64, -0.01]$

   D. There is no Real solution to the equation.

   E. None of the above.

2. Which of the following intervals describes the Range of the function below?

$$f(x) = -e^{x-2} - 1$$

   A. $(a, \infty), a \in [1, 5]$

   B. $(-\infty, a], a \in [-4, 0]$

   C. $[a, \infty), a \in [1, 5]$

   D. $(-\infty, a), a \in [-4, 0]$

   E. $(-\infty, \infty)$

3. Which of the following intervals describes the Range of the function below?

$$f(x) = -\log_2(x + 8) + 5$$

   A. $(-\infty, a), a \in [-6.9, -2.1]$

   B. $[a, \infty), a \in [-10.3, -7.3]$

   C. $(-\infty, a), a \in [3.4, 5.4]$

   D. $[a, \infty), a \in [7.8, 9.1]$

   E. $(-\infty, \infty)$

4. Which of the following intervals describes the Domain of the function below?

$$f(x) = e^{x-6} - 4$$

A. $(a, \infty), a \in [0, 6]$

B. $[a, \infty), a \in [0, 6]$

C. $(-\infty, a), a \in [-8, -1]$

D. $(-\infty, a], a \in [-8, -1]$

E. $(-\infty, \infty)$

5. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$5^{-2x+3} = 49^{-5x-5}$$

A. $x \in [-8.36, -7.3]$

B. $x \in [-3.24, -2.17]$

C. $x \in [-1.85, -0.86]$

D. $x \in [-0.86, -0.2]$

E. There is no Real solution to the equation.

6. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$\log_5 (-3x + 7) + 5 = 3$$

A. $x \in [12, 17]$

B. $x \in [-40.33, -37.33]$

C. $x \in [-2.68, 4.32]$

D. $x \in [3.33, 10.33]$

E. There is no Real solution to the equation.

7. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$4^{-5x+5} = \left(\frac{1}{27}\right)^{3x-5}$$

  A. $x \in [2.4, 3.4]$

  B. $x \in [-2.5, -0.1]$

  C. $x \in [0, 1.9]$

  D. $x \in [-6.2, -2.3]$

  E. There is no Real solution to the equation.

8. Which of the following intervals describes the Domain of the function below?

$$f(x) = -\log_2(x+1) + 2$$

  A. $(-\infty, a), a \in [-0.51, 1.05]$

  B. $[a, \infty), a \in [1.4, 2.04]$

  C. $(-\infty, a], a \in [-2.92, -1.94]$

  D. $(a, \infty), a \in [-1.37, 0.82]$

  E. $(-\infty, \infty)$

9. Solve the equation for x and choose the interval that contains the solution (if it exists).

$$\log_2(4x+5) + 4 = 2$$

  A. $x \in [-0.93, -0.12]$

  B. $x \in [-2.18, -0.77]$

  C. $x \in [2.16, 2.6]$

  D. $x \in [-0.93, -0.12]$

  E. There is no Real solution to the equation.

10. Solve the equation for x and choose the interval that contains x (if it exists).

$$16 = \ln \sqrt[4]{\frac{9}{e^{7x}}}$$

  A. $x \in [5.83, 9.83]$

  B. $x \in [-7.26, -3.26]$

  C. $x \in [-3.9, 0.1]$

  D. There is no Real solution to the equation.

  E. None of the above.